

IN THE CLAIMS

1. (currently amended) A method for displaying an image only to an authorized user, comprising:

generating a data image;

generating a mask image, wherein the mask image is a negation of pixels of the data image;

selecting the data image or the mask image according to a select signal; and

sequentially displaying the selected images on a display device to provide a perceived gray image to an unauthorized user and displaying an output image only to an authorized user.

2. (currently amended) The method of claim 1 further comprising;

opening an optical shutter device when the data image is displayed;

shutting the optical shutter device when the mask image is displayed so that only the data image is perceived by the authorized user viewing the display device through the optical shutter device, and a the gray image is perceived by ~~an~~ the unauthorized user viewing the data and mask images directly, the opening and shutting synchronized in phase and frequency to the select signal.

3. (original) The method of claim 2 wherein the optical shutter device includes a polarizing lens on either side of a ferro-electric liquid crystal polarization rotator.

4. (original) The method of claim 2 further comprising:

synchronizing the displaying, and the opening and shutting by a wire link.

5. (original) The method of claim 2 further comprising:
synchronizing the displaying, and the opening and shutting by a wireless link.
6. (original) The method of claim 5 wherein the synchronization is according to a phase of the select signal.
7. (original) The method of claim 1 wherein each image is a color image, and the negation is done independently for each color channel of the color image.
8. (original) The method of claim 7 further comprising:
gamma-correcting each color channel after the negation.
9. (original) The method of claim 7 wherein each input pixel of each color image has an intensity in a range from 0 to 255, and each output pixel is determined by:
$$\text{output} = 255((\text{input}/255)^{1/\gamma}) + 0.5.$$
10. (original) The method of claim 1 wherein the select signal is generated by a clock, and further comprising:
alternately selecting the data and mask images according to clock cycles.
11. (original) The method of claim 1 wherein the select signal is generated by a random generator.
12. (previously presented) The method of claim 11 wherein the displayed images occur in pairs so that each pair includes a first image and a second image in a random order.

13. (original) The method of claim 11 wherein the random generator operates according to an internal seed value and a real-time supplied value.

14. (previously presented) The method of claim 2 further comprising:

generating a first random select signal to select the displayed images;

generating a second random select signal to open and shut the optical shutter device; and

synchronizing the second random select signal to the first random select signal.

15. (original) The method of claim 1 wherein each data image includes a plurality of pixels, and further comprising:

negating each pixel of the data image serially to generate each corresponding pixel of the mask image; and

serially selecting each pixel of the data image or the mask image according to a select signal; and

sequentially displaying the selected pixels on a display device.

16. (currently amended) The method of claim 15 further comprising:

opening an optical shutter device when the selected pixel of the data image is displayed;

shutting the optical shutter device when the selected pixel of the mask image is displayed so that only the data image is perceived by the authorized user viewing the display device through the optical shutter device, and a gray image is perceived by ~~an~~ the unauthorized user viewing the data and mask images directly, the opening and shutting synchronized in phase and frequency to the select signal.

17. (original) The method of claim 16 wherein the select signal is generated by a clock, and further comprising:

alternately selecting the pixel from the data and the pixel from the mask images according to clock cycles.

18. (original) The method of claim 1 wherein the select signal is generated by a random generator.

19. (original) The method of claim 1 wherein a plurality of data images are provided in a video, and each data image is sequentially negated to produce the corresponding mask image.

20. (cancelled)

21. (cancelled)

22. (cancelled)

23. (cancelled)

24. (cancelled)

25. (currently amended) An apparatus for displaying an image only to an authorized user, comprising:

a video camera generating a data image;

an inverter for generating a mask image, wherein the mask image is a negation of pixels of the data image;

a controller generating a select signal for selecting the data image or the mask image; and

a display device for sequentially displaying selected images on a display device to produce a perceived gray image and displaying an output image only to an authorized user.

26. (original) The apparatus of claim 25 further comprising:

an optical shutter device opened when the data image is displayed and closed when the mask image is displayed so that only the data image is perceived by the authorized user viewing the display device through the optical shutter device, and a gray image is perceived by ~~an~~ the unauthorized user viewing the data and mask images directly, the opening and shutting of the optical shutter device synchronized in phase and frequency to the select signal.

27. (original) The apparatus of claim 25 wherein the data and mask images are selected periodically.

28. (original) The apparatus of claim 25 wherein the data and mask images are selected randomly.

29. (previously presented) The apparatus of claim 25 wherein each image includes a plurality of pixels, and wherein each pixel of the data image negated serially.